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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,944	05/04/2005	Marc Borner	MERCK-3010	9585

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EXAMINER

NGUYEN, THUY-AI N

ART UNIT	PAPER NUMBER
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4134

MAIL DATE	DELIVERY MODE
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10/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,944

Applicant(s)

BORNER ET AL.

Examiner

Thuyai N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 05/04/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 14 is objected to because of the following informalities: the word "for" is duplicated. Appropriate correction is required.

Claims 1, 5 and 7 contain the trademark/trade name Titrplex I. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the compound NTA and, accordingly, the identification/description is indefinite.

Specification

The abstract of the disclosure is objected to because in line 7 the phrase "a method for treating the surface of a substrate by using the same" is written as "a method fro treating the surface of a substrate by using the same". Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US.5,290,361) in view of Martyak et al. (US. 2004/0092106).

Regarding claims 1-3, Hayashida et al. teach a cleaning solution for surface treatment comprising alkaline compound such as ammonium hydroxide, hydrogen peroxide, water, chelating additive or complexing agent (abstract), nitrilotriacetic acid (NTA, col. 5: 1-10).

Hayashida et al. do not teach a cleaning solution comprising 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan. However, Martyak et al. teach a composition for treating surfaces of wafers comprises 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [0056]. Hayashida et al. and Martyak et al. are combinable

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because they are in the same field of endeavor, namely, teaching a solution for treating surface of semiconductor substrate. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan of Martyak et al. in the teaching of Hayashida et al.. The motivation would be to assist the pH control in the solution and remove the copper impurity on the surface of the substrate (Martyak et al., [0056]).

Regarding claim 8, Hayashida et al. teach a method of cleaning semiconductor substrate with the cleaning solution comprising a step of treating the substrate with a cleaning solution, rinsing and drying (examples 1-10).

Regarding claim 9-12, Hayashida et al. teach a method of cleansing semiconductor substrates at room temperature (col. 8: 5-15), and at 70 degree of Celsius for 10 minutes (examples 1-12).

Regarding claim 13, Hayashida et al. teach a method of cleaning semiconductor substrate comprising a step of immersing the substrate (wafer) into the solution (examples 1-12).

Regarding claim 14, Hayashida et al. teach that the solution can be used for cleaning surface of semiconductors (col. 1: 5-9).

Claims 4, and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US. 2,290,361) in view of Martyak et al. (US. 2004/0092106) as applied to claim 1 above, and further in view of Smith et al. (US. 2005/0042198).

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Regarding claims 4, Hayashida et al. teach a cleaning composition as set forth above. Hayashida et al. do not teach the use of Bis-tris in the solution having the claimed amount. Smith et al. teach a cleaning solution for contact lens (glass) comprising 1 percent (or 1000 ppm, table p. 2) of the buffer polyoxyl 40 (or 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymethyl)methan in claim 13). Hayashida et al., Martyak et al and Smith et al. are analogous arts because they are in the same field of endeavor, namely teaching about the cleaning solution for semiconductor including glass. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the teaching of Smith et al. in the teaching of Hayashida et al.. The motivation would be to obtain the desired pH level in the solution.

Regarding claims 6-7, Hayashida et al. teach the composition, wherein NTA is in the amount of 10^{-4} % (or 1 ppm) by weight of the composition (col. 5: 1- 11). Smith et al. teach the solution comprising 1 percent (or 1000 ppm) of Bis-Tris (table p. 2, and claim 13). The total of 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymethyl)methan and nitrilotriacetic acid is reading on the range of the applicant, which is less than 4000 ppm or 2000 ppm.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US. 2,290,361) in view of Martyak et al. (US. 2004/0092106) as applied to claim 1 above, and further in view of Cooper et al. (US. 6,191,085).

Regarding claim 5, Hayashida et al. in view of Martyak et al. teach a cleaning solution as set forth above. Hayashida et al. do not teach the claimed amount of

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chelating agent as set forth by the applicant. However, Cooper et al. teach using from 1 ppb to 1000 ppm of chelating agent in the solution for cleaning the semiconductor substrate (col. 3: 4-15). Hayashida et al., Martyak et al., and Cooper et al. are combinable because they are in the same field of endeavor, namely teaching about a cleaning solution for semiconductor including glass. At the time of the invention, it would have been obvious to ordinary skill in the art to use the amount of chelating agent in the teaching of Cooper et al. into the teaching of Hayashida et al.. The motivation would be to lower the metallic impurity in the cleaning solution.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuyai N. Nguyen whose telephone number is 571-270-3294. The examiner can normally be reached on Monday-Friday: 8:30 a.m. - 5:00 p.m. eastern time.

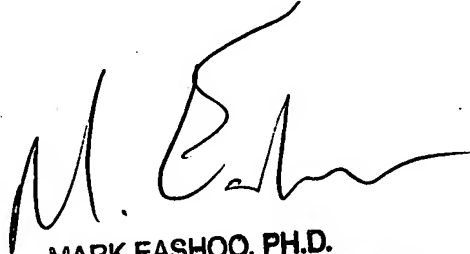
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 19, 2007

Thuy-Ai N. Nguyen


MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER
07 / Oct / 07